

WHAT IS CLAIMED IS:

1. A polishing apparatus for polishing substrate, comprising a polishing table,

wherein an expendable replacement component is bonded to said polishing table in such a manner that a piece of heat-sensitive adhesive tape is interposed between said expendable replacement component and said polishing table, said heat-sensitive adhesive tape being switchable between a non-adhesive state and a adhesive state according to whether a temperature thereof is higher or lower than a predetermined set temperature.

2. A polishing apparatus according to claim 1, wherein said expendable replacement component is a polishing cloth.

3. A polishing apparatus according to claim 1, wherein said heat-sensitive adhesive tape exhibits adhesiveness at a temperature higher than said set temperature but loses the adhesiveness at a temperature lower than said set temperature.

4. A polishing apparatus according to claim 1, wherein said heat-sensitive adhesive tape exhibits adhesiveness at a temperature lower than said set temperature but loses the adhesiveness at a temperature higher than said set temperature.

5. A polishing apparatus according to claim 1, wherein said polishing table has a heat transfer medium passage so that a heat transfer medium for heating or cooling circulates through said heat transfer medium passage to heat or cool said polishing table.

6. A polishing apparatus for polishing a substrate, comprising a top ring for holding a substrate,

wherein an expendable replacement component is bonded to said top ring in such a manner that a piece of heat-sensitive adhesive tape is interposed between said expendable replacement component and said top ring, said heat-sensitive adhesive tape being switchable between a non-adhesive state and a adhesive state according to whether a temperature thereof is higher or lower than a predetermined set temperature

7. A polishing apparatus according to claim 6, wherein said expendable replacement component is a backing film or a pressure ring, said backing film being bonded to a substrate holding surface of said top ring, and said pressure ring being bonded to said top ring and positioned at an outer peripheral portion of the substrate as held by said top ring.

8. A polishing apparatus according to claim 6, wherein said heat-sensitive adhesive tape exhibits adhesiveness at a temperature higher than said set temperature but loses the adhesiveness at a temperature lower than said set temperature.

9. A polishing apparatus according to claim 6, wherein said heat-sensitive adhesive tape exhibits adhesiveness at a temperature lower than said set temperature but loses the adhesiveness at a temperature higher than said set temperature.

10. An expendable replacement component bonding and

removing method for use in a polishing apparatus, said polishing apparatus having a top ring for holding a substrate and a polishing table having a polishing surface, said method comprising the steps of:

placing expendable replacement components to be bonded to said top ring and said polishing table over said top ring and said polishing table in such a manner that pieces of heat-sensitive adhesive tape are interposed between said expendable replacement components on the one hand and said top ring and said polishing table on the other, said heat-sensitive adhesive tape being switchable between a non-adhesive state and a adhesive state according to whether a temperature thereof is higher or lower than a predetermined set temperature; and

heating or cooling said heat-sensitive adhesive tape above or below said set temperature, thereby bonding said expendable replacement components to said top ring and said polishing table or removing said expendable replacement components bonded to said top ring and said polishing table.

11. An expendable replacement component bonding and removing method according to claim 10, wherein said expendable replacement components are bonded to said top ring and said polishing table or removed from said top ring and said polishing table by using a jig for heating or cooling said pieces of heat-sensitive adhesive tape.

12. An expendable replacement component bonding and removing method according to claim 10, wherein said expendable replacement components are at least one selected

from the group consisting of a polishing cloth bonded to a top surface of said polishing table, a backing film bonded to a substrate holding surface of said top ring, and a pressure ring bonded to said top ring and positioned at an outer peripheral portion of the substrate as held by said top ring.

13. An expendable replacement component bonding and removing method according to claim 10, wherein said heat-sensitive adhesive tape exhibits adhesiveness at a temperature higher than said set temperature but loses the adhesiveness at a temperature lower than said set temperature, so that said heat-sensitive adhesive tape is cooled below said set temperature to bond or remove said expendable replacement components.

14. An expendable replacement component bonding and removing method according to claim 10, wherein said heat-sensitive adhesive tape exhibits adhesiveness at a temperature lower than said set temperature but loses the adhesiveness at a temperature higher than said set temperature, so that said heat-sensitive adhesive tape is heated above said set temperature to bond or remove said expendable replacement components.

15. An expendable replacement component bonding and removing method according to claim 14, wherein said jig is a plate-shaped heater.

16. An apparatus for polishing a substrate, comprising: a polishing table, a heat-sensitive adhesive tape disposed on said polishing table and having a switchable temperature on

which said heat-sensitive adhesive tape losing adhesiveness, and a polishing pad disposed on said heat-sensitive adhesive tape.

17. An apparatus for polishing a substrate, comprising: a polishing table, a heat-sensitive adhesive disposed on said polishing table and having a switchable temperature on which said heat-sensitive adhesive losing adhesiveness, and a polishing pad disposed on said heat-sensitive adhesive.

18. A method for polishing a substrate, comprising:
bonding a polishing cloth to a polishing table,
polishing substrates with said polishing cloth,
removing said polishing cloth,
bonding another polishing cloth to said polishing table, and
polishing substrates.

19. A method for polishing a substrate, comprising:
bonding a first polishing cloth to a polishing table,
polishing substrates with said first polishing cloth,
removing said first polishing cloth,
bonding a second polishing cloth to said polishing table,
polishing substrates with said second polishing cloth,
removing said second polishing cloth, and
bonding said first polishing cloth to said polishing table.

20. A polishing apparatus for polishing substrate, comprising a polishing table,
wherein an expendable replacement component is bonded

to said polishing table in such a manner that a heat-sensitive adhesive is interposed between said expendable replacement component and said polishing table, said heat-sensitive adhesive being switchable between a non-adhesive state and a adhesive state according to whether a temperature thereof is higher or lower than a predetermined set temperature.

21. A polishing apparatus according to claim 20, wherein said expendable replacement component is a polishing cloth.

22. A polishing apparatus according to claim 20, wherein said heat-sensitive adhesive exhibits adhesiveness at a temperature higher than said set temperature but loses the adhesiveness at a temperature lower than said set temperature.

23. A polishing apparatus according to claim 20, wherein said heat-sensitive adhesive exhibits adhesiveness at a temperature lower than said set temperature but loses the adhesiveness at a temperature higher than said set temperature.

24. A polishing apparatus according to claim 20, wherein said polishing table has a heat transfer medium passage so that a heat transfer medium for heating or cooling circulates through said heat transfer medium passage to heat or cool said polishing table.